

SEQUENCE LISTING

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<120> NUCLEIC ACID CONSTRUCT CONTAINING FULL LENGTH GENOME OF HUMAN
 HEPATITIS C VIRUS ... AND METHOD OF PRODUCING HEPATITIS C VIRUS
 PARTICLE

<130> 1254-0321PUS1

<140> US 10/589,902
 <141> 2006-08-17

<150> PCT/JP2005/003232
 <151> 2005-02-21

<150> JP 2004-045489
 <151> 2004-02-20

<160> 26

<170> PatentIn Ver. 2.1

<210> 1
 <211> 340
 <212> RNA
 <213> Hepatitis C virus

<220>
 <221> misc_feature
 <222> (1)..(340)
 <223> 5' non-translated region of hepatitis C virus genomic RNA
 derived from JFH-1 clone

<400> 1
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 cuucacgcag aaagcgccua gccauggcgu uaguaugagu gucguacagc cuccaggccc 120
 cccccucccg ggagagccau aguggucugc ggaaccggug aguacaccgg aaugccggg 180
 aagacugggu ccuuucuugg auaaaccac ucuaugcccg gccauuuggg cgugcccccg 240
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<210> 2
 <211> 573
 <212> RNA
 <213> Hepatitis C virus

<220>
 <221> misc_feature
 <222> (1)..(573)
 <223> core protein-coding sequence of hepatitis C virus genomic RNA

derived from JFH-1 clone

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gacguuaagu ucccgggcg cgccagau cguuggcgag uauacuugu gccgcgcagg 120
ggccccaggu ugggugugcg cagcacaagg aaaacuucgg agcggucca gccacguggg 180
agacgccagc ccauccccaa agaucggcgc uccacuggca aggccugggg aaaaccaggu 240
cgccccuggc ccuauauagg gaaugaggga cucggcuggg caggauaggc ccugucuccc 300
cgaggcucuc gcccuccug gggcccccac gacccccggc auaggucgcg caacgugggu 360
aaagucaucg acaccuaac guguggcuu gccgaccuca ugggguaacu ccccgucgua 420
ggcgccccgc uuaguggcgc cgccagagcu gucgcgacg gcgugagagu ccuggaggac 480
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<210> 3
<211> 576
<212> RNA
<213> Hepatitis C virus
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<222> (1)..(576)
<223> E1 protein-coding sequence of hepatitis C virus genomic RNA
        derived from JFH-1 clone
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aucacuuggc agcucgaggc ugcgguucuc cagucucccg ggugcguccc gugcgagaga 120
guggggaaau cgucacggug uugggugcca gucucgcaa acauggcugu gcggcagccc 180
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ugcucugcuc ucuacguagg ggaccucugu ggcgggguga ugcucgcggc ccagguguuc 300
aucgucucgc cgcaguacca cugguuugug caagaauuca auuguccau cuaccucggc 360
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augauccugg cguacgugau gcgcgucccc gaggucauca uagacaucgu uagcggggcu 480
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auugucaucc uucugcuggc cgcuggggug gacgcg 576
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<210> 4
<211> 1290
<212> RNA
<213> Hepatitis C virus
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<220>
<221> misc_feature
<222> (1)..(1290)
<223> E2 protein-coding sequence of hepatitis C virus genomic RNA
        derived from JFH-1 clone
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<400> 4
ggcaccacca ccguuggagg cgcuguugca cguuccacca acgugauugc cggcguguuc 60
agccauggcc cucagcagaa cauucagcuc auuaacacca acggcaguug gcacaucaac 120
cguacugccu ugaauugcaa ugacuccuug aacaccggcu uucucgcggc cuuguucuac 180
accaaccgcu uuaacucguc agggugucca gggcgccugu ccgccugccg caacaucgag 240
gcuuuccgga uaggguuggg caccuacag uacgaggaua augucaccaa uccagaggau 300
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```

augaggccgu acugcuggca cuacccccca aagccgugug gcguaguccc cgcgaggucu 360
guguguggcc caguguacug uuucaccccc agcccgguaug uaguggggcac gaccgacaga 420
cguggagugc ccaccuacac auggggagag aaugagacag augucuuccu acugaacagc 480
acccgaccgc cgcaggggcuc augguucggc ugcacgugga ugaacuccac ugguuucacc 540
aagacuugug gcgcgccacc uugccgcacc agagcugacu ucaacgccag cacggacuug 600
uugugcccua cggauuguuu uaggaagcau ccugaugcca cuuauauuaa gugugguucu 660
gggcccuggc ucacaccaaa gugccugguc cacuacccuu acagacucug gcauuacccc 720
ugcacaguca auuuuaccuu cuucaagaua agaauguaug uagggggggg uagcacagc 780
cucacggccg caugcaacuu cacucguggg gaucgcugcg acuuggagga caggacagc 840
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<210> 5
<211> 651
<212> RNA
<213> Hepatitis C virus

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```

<220>
<221> misc_feature
<222> (1)..(651)
<223> NS2 protein-coding sequence of hepatitis C virus genomic RNA
        derived from JFH-1 clone

```

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cugacccugg gggaaaccau gauucaggag ugguuaccac ccaugcaggu gcgcggcggc 180
cgcgauggca ucgcgugggc cgucacuaua uucugcccgc gugugguguu ugacauuacc 240
aaauggcuuu uggcguugcu ugggccugcu uaccucuuaa gggccgcuu gacacaugug 300
ccguacuucg ucagagcuca cgcucugaua aggguaugcg cuuuggugaa gcagcucgcg 360
ggggguaggu auguucaggu ggcgcuaauu gcccuuggca gguggacug caccuacau 420
uauagaccac ucacaccuau gucggacug gccgcuaug gccugcgcga cuuagcgguc 480
gccguggaac ccaucaucuu caguccgaug gagaagaagg ucaucgucug gggagcggag 540
acggcugcau guggggacau ucuacaugga cuucccgugu ccgccgacu cggccaggag 600
auccuccucg gcccagcuga uggcuacacc uccaaggggu ggaagcuccu u 651

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<210> 6
<211> 1893
<212> RNA
<213> Hepatitis C virus

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```

<220>
<221> misc_feature
<222> (1)..(1893)
<223> NS3 protein-coding sequence of hepatitis C virus genomic RNA
        derived from JFH-1 clone

```

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<400> 6
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aacaagacuc uagccggcuu acggggguccg gucacgcaga uguacucgag ugcugagggg 240
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cagggguaca aaguacuagu gcuuaacccc ucgguagcug ccaccucggg guuuggggcg 720
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cgccgcgggc gcacagguag aggaagacag ggcacuuaua gguauguuuc cacuggugaa 1440
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auguggaagu gccugggccc acucaagccu acgcuugcgg gcccacacc ucuccuguac 1800
cguuugggcc cuauuaccaa ugaggucacc cucacacacc cugggacgaa guacaucgcc 1860
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<210> 7
<211> 162
<212> RNA
<213> Hepatitis C virus

```

```

<220>
<221> misc_feature
<222> (1)..(162)
<223> NS4A protein-coding sequence of hepatitis C virus genomic RNA
        derived from JFH-1 clone

```

```

<400> 7
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ggaugcguuu ccaucaucgg ccgcuugcac gucaaccagc gagucgucgu ugcgccggau 120
aaggaggucc uguaugaggc uuuugaugag auggaggaau gc 162

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<210> 8
<211> 783
<212> RNA
<213> Hepatitis C virus

```

```

<220>
<221> misc_feature

```

<222> (1)..(783)
 <223> NS4B protein-coding sequence of hepatitis C virus genomic RNA
 derived from JFH-1 clone

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 auccaaggcu ugcugcagca ggccucuaag caggcccagg acauacaacc cgcuaugcag 120
 gcuucauggc ccaaagugga acauuuuugg gccagacaca uguggaacuu cauuagcggc 180
 auccaauacc ucgcaggauu gucaacacug ccagggaacc ccgcgguggc uuccaugaug 240
 gcauucagug ccgcccucac caguccguug ucgaccagua ccaccauccu ucucaacauc 300
 augggaggcu gguuagcguc ccagaucgca ccacccgcgg gggccaccgg cuuugucguc 360
 aguggccugg ugsgggcguc cgugggcagc auaggccugg guaaggugcu gguggacauc 420
 cuggcaggau auggugcggg cauuucgggg gccucgucg cauucagau caugucuggc 480
 gagaagcccu cuauggaaga ugucaucaau cuacugccug ggauccuguc uccgggagcc 540
 cugguggugg ggucaucug cgcgccauu cugcgccgcc acgugggacc gggggagggc 600
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 acucacuacg ugacggaguc ggaugcgucg cagcguguga cccaacuacu uggcucucuu 720
 acuauaacca gccuacucag aagacuccac aaugggauaa cugaggacug ccccauccca 780
 ugc 783

<210> 9
 <211> 1398
 <212> RNA
 <213> Hepatitis C virus

<220>
 <221> misc_feature
 <222> (1)..(1398)
 <223> NS5A protein-coding sequence of hepatitis C virus genomic RNA
 derived from JFH-1 clone

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 aaugggcuga ccucuaaaau guuccccaag cugcccggcc ucccuucau cucuugucua 120
 aagggguaca agggugugug ggccggcacu ggcaucauga ccacgcgcug cccuugcggc 180
 gccaaacacu cuggcaaugu ccgcccgggc ucuauagga ucacagggcc uaaaaccugc 240
 augaacaccu ggcaggggac cuuuccuauc aaauugcuaca cggagggcca gugcgcgccg 300
 aaacccccca cgaacuacaa gaccgccauc uggagggugg cggccucgga guacgcggag 360
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 ccuugccaac uaccuucucc agaguuuuuc uccugggugg acggugugca gauccauagg 480
 uuugcaccca caccaaagcc guuuuuccgg gaugaggucu cguucugcu ugggcuuau 540
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 ggaucaccuc caucugaggc gagcuccuca gugagccagc uaucagcacc gucgcugcgg 720
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 <211> 1773
 <212> RNA
 <213> Hepatitis C virus

<220>
 <221> misc_feature
 <222> (1)..(1773)
 <223> NS5B protein-coding sequence of hepatitis C virus genomic RNA
 derived from JFH-1 clone

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 uugccaauca acccuuugag uaacucgcug uugcgauacc auaacaaggu guacuguaca 120
 acaucaaaga gcgccucaca gagggcuaaa aagguaacuu uugacaggac gcaagugcuc 180
 gacgcccuu augacucagu cuuaaaggac aucaagcuag cggcuuccaa ggucagcgca 240
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 <211> 239
 <212> RNA
 <213> Hepatitis C virus

<220>
 <221> misc_feature
 <222> (1)..(239)
 <223> 3' non-translated region of hepatitis C virus genomic RNA
 derived from JFH-1 clone

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uuuuuuuuuu uuuuuuuuuu uuuuuuuuuu uuuuuuuuuu cccucuuucu ucccuucuca 120
ucuauuucua cuuucuuucu ugguggcucc aucuuagccc uagucacggc uagcugugaa 180
agguccguga gccgcaugac ugcagagagu gccguaacug gucucucugc agaucaugu 239

<210> 12
<211> 9707
<212> RNA
<213> Hepatitis C virus

<220>
<221> misc_feature
<222> (1)..(9707)
<223> full-length Hepatitis C virus genomic RNA derived from JFH-1 clone

<400> 12
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cacucccccug ugaggaacua cugucuucac gcagaaagcg ccuagccaug gcguuaguau 120
gagugucgua cagccuccag gccccccccc cccgggagag ccuaguggu cugcggaaac 180
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gccuuguggu acugccugau agggcgcuug cgagugcccc gggaggucuc guagaccgug 360
caccaugagc acaaauccua aaccucaaag aaaaaccaaa agaaacacca accgucgcc 420
agaagacguu aaguucccg gcggcggcca gaucguuggc ggaguauacu uguugccgcg 480
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aggucgcccc uggccccuau augggaauga gggacucggc ugggcaggau ggcuccuguc 660
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ggguaaaaguc aucgacaccc uaacgugugg cuuugccgac cucauggggg acauccccgu 780
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ggccuuguuc uacaccaacc gcuuuaacuc gucagggugu ccaggcgccg ugucgcccug 1740
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RNA derived from JFH-1 clone

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<223> full-length Hepatitis C virus genomic RNA derived from JFH-1 clone, wherein an amino acid motif GDD has been mutated into GND

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<211> 9707

<212> RNA

<213> Artificial Sequence

<220>

<223> replicon RNA comprising full-length Hepatitis C virus genomic RNA derived from JFH-1 clone, wherein an amino acid motif GDD has been mutated into GND

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